State of Illinois
Department of Transportation
Bureau of Materials and Physical Research

POLICY MEMORANDUM

November 1, 2001	Springfield	2001-10

TO: DISTRICT ENGINEERS AND HIGHWAY BUREAU CHIEFS

SUBJECT: REINFORCEMENT FABRIC PLANT CERTIFICATION PROCEDURE

1.0 SCOPE

1.1 This procedure shall apply to all Plants that supply reinforcement fabric to State projects. No reinforcement fabric may be used unless the Plant has been certified. The effective date of this certification procedure shall be January 1, 1985.

2.0 PURPOSE

2.1 To establish a procedure for certification whereby Plants will supply reinforcement fabric meeting test properties cited by the Bureau.

2.2 To set forth the conditions for Plant certification.

3.0 APPLICABLE SPECIFICATIONS

3.1 AASHTO M 32 (ASTM A 82), "Cold Drawn Steel Wire for Concrete Reinforcement" (current year issued).

3.2 AASHTO M 55 (ASTM A 185), "Welded Steel Wire Fabric for Concrete Reinforcement" (current year issued).

3.3 AASHTO M 221 (ASTM A 497), "Welded Deformed Steel Wire Fabric for Concrete Reinforcement" (current year issued).

3.4 AASHTO M 225 (ASTM A 496), "Deformed Steel Wire for Concrete Reinforcement" (current year issued).

3.5 Illinois Department of Transportation *Standard Specifications for Road and Bridge Construction* (current year issued).

4.0 DEFINITIONS

4.1 Bureau - Bureau of Materials and Physical Research, Springfield, Illinois.

4.2 Certification Tag - A metal or plastic tag attached to each bundle or roll which lists the Plant name, and the fabric size, date produced, and mill order number. The tag shall be attached with a metal or plastic strip seal.

4.3 Department - Illinois Department of Transportation

4.4 District - Bureau of Materials located at each Illinois Department of Transportation District.

4.5 Engineer - The Director of Highways of the Illinois Department of Transportation or his authorized representative limited by the particular duties entrusted to him.

4.6 Plant - Reinforcement fabric mill.

4.7 Plant Classification - A Plant under this procedure will be classified as Certified, De-Certified, or Non-Certified.

4.7.1 Certified Plant - A Plant that has met the requirements for certification and is allowed to supply reinforcement fabric to Illinois highway projects.

4.7.2 De-Certified Plant - A Plant that has had Certified Plant status rescinded because requirements warranting certification have not been maintained. A De-Certified Plant is not allowed to supply reinforcement fabric to Illinois highway projects.

4.7.3 Non-Certified Plant - A Plant that does not meet certification requirements or has not been checked for certification and is not qualified to supply reinforcement fabric to Illinois highway projects.

4.8 State - State of Illinois.

5.0 CERTIFICATION PROCEDURE

5.1 General - Certification shall be based on satisfactory compliance of tests to standard specifications and satisfactory comparison of test results between laboratories based on samples taken at the Plant. The method of certification shall consist of both the Plant laboratory and the Bureau laboratory testing comparable samples of fabric for conformance to specifications. Primary considerations are a comparison of the results obtained by the Plant laboratory and the Bureau laboratory and a comparison of test data to specified product test limits. Test data from the laboratories must compare within the limits specified.

5.2 Inspection Expense - The cost of inspection for Plant certification will be borne by the Plant. A Plant intending to supply reinforcing fabric material to Illinois projects shall contact the Engineer of Materials, Bureau of Materials and Physical Research, 126 East Ash Street, Springfield, Illinois 62704-4766, to arrange for the required sampling. At the Plant's option, sampling arrangements will be made through an approved private inspection agency or by a State inspector. All samples will be shipped to the laboratory at the Plant's expense and choice of shipping facilities.

5.3 Sampling and Testing Procedure - The Engineer will select samples at the Plant location. The results of tests performed by the Plant laboratory shall be forwarded to the Bureau laboratory. The lot of material to be sampled shall include all sizes in stock. The date and time shall be prearranged by the Bureau and the Plant.

5.3.1 Sampling Frequency - Samples shall be taken from ten (10) different runs in Plant production. Each sample shall be from a different fabric size when available.

5.3.2 Sample Size - Each sample shall be a portion of fabric consisting of a minimum of four (4) adjacent longitudinal wires with a minimum of eight (8) contained transverse wires. Each longitudinal wire shall be given a unit number (1 through 4). The unit number shall be attached to both ends of the longitudinal wire. Each sample shall be tagged on the two (2) outside transverse wires with the same identification number. Each identification number shall be unique. The sample shall be cut into two (2) specimens of equal portions by cutting the longitudinal wires between the two (2) center transverse wires.

5.3.3 Sample Testing - One (1) specimen from each sample shall be tested by the Plant laboratory and the test results entered on the provided form. This form shall be signed and submitted to the Bureau laboratory. The other specimens shall be sent to the Bureau laboratory for testing.

5.4 Plant Responsibility - The specimens shall be cut and identified by the Plant in the presence of the Engineer, and all necessary facilities shall be made available to the Engineer to perform his assigned duties. Plant facilities, witnessing of testing, and test records shall be accessible to the Engineer or his representative at all times.

5.5 Bureau Responsibility - The Bureau laboratory shall test the companion specimens and determine if Certified Plant status shall be granted. The Plant will be notified in writing as to test results and Plant Classification. Copies of the updated list of Certified Plants will be distributed to all Districts.

6.0 REQUIREMENTS FOR CERTIFICATION

6.1 Test and Specifications - The methods of test and specification requirements shall be in accordance with the applicable specifications. For comparison between laboratories, each specimen shall have four (4) units (each incorporating a different longitudinal wire) checked in tensile for the longitudinal wires and four (4) units (each corresponding to the tensile unit test) checked in weld shear. One transverse wire shall be checked in tensile.

6.2 Laboratory Comparison Requirements - The test results for comparable sample specimens run at each laboratory shall vary between laboratories no more than the following:

Tensile.....10 percent
Unit Weight (deformed wire only) ..... 5 percent

6.2.1 The average test results for the same sample run at each laboratory shall vary between laboratories no more than the following:

Tensile..... 5 percent

Unit Weight (deformed wire only).....2 percent

6.2.2 Any sample failing to meet Paragraphs 6.2 or 6.2.1 may be resampled. The resampling shall consist of two (2) additional pieces of fabric.

6.2.3 Failure of more than 10 percent of comparable test values to agree within the above limits will constitute failure to obtain Certified Plant status. The Plant will be on Non-Certified Plant status.

6.3 Quality Requirements - No more than one (1) sample shall have any of the average test results, as determined in Paragraph 6.2.1, below the applicable specification minimums as tested at either laboratory.

6.3.1 The failure of more than one (1) unit to meet the bend test will constitute rejection.

6.3.2 Failure to meet Paragraphs 6.3 or 6.3.1 will constitute failure to obtain Certified Plant status.

7.0 REQUIREMENTS DURING PERIOD OF CERTIFICATION

7.1 Plant Responsibility - Reinforcement fabric will be accepted on the basis of certified test data. The material from each mill order shall be sampled and tested and have the test data identified with the mill order number. Each bundle of reinforcement fabric shipped to Illinois projects must be identified by an attached Certification Tag, as indicated in Paragraph 4.2, and accompanied by a test report corresponding with the mill order.

7.1.1 Certification Statement - The Plant shall submit to the Bureau a certified statement that reinforcement fabric furnished to each Illinois project conforms to the current Illinois Standard Specifications. This certification shall be signed by a responsible office of the company with authority to bind the company to contract and shall be notarized.

7.2 State Responsibility

7.2.1 Resident Engineer - The Resident Engineer shall make positive identification of the fabric by the attached Certification Tags, the test report, and the bill of lading or invoice. Material form a Certified Plant shall be accepted and reported to the District Materials Engineer for entry into MISTIC.

7.2.2 District - Within each year, each District shall take a minimum of six (6) random samples from materials supplied by each Certified Plant supplying material to that District and assigned to or designated for a State job. The samples shall include as many sizes as are available. The samples shall be taken from different shipments and may be taken at either the job site, the fabricator, the warehouse, or any other location approved by the Engineer. The samples shall be sent to the Bureau laboratory for testing.

7.2.3 Bureau - The Bureau shall be responsible for all testing and evaluation of the samples.

8.0 EVALUATION OF RANDOM SAMPLES

8.1 Quality Requirements - A Certified Plant may be placed on De-Certified Plant status when the test results from random samples vary below the applicable specification minimums by more than the following tolerances:

Tensile.....5 percent
Weld Shear.....5 percent
Unit Weight (deformed wire only).....2 percent

8.2 Control Limits

(a) No more than ten (10) percent of the annual random test samples may fail the applicable specification minimums within the tolerances in Paragraph 8.1.

(b) No more than two (2) of the annual random test samples may fail the applicable specification minimums by more than the tolerances in Paragraph 8.1.

(c) No more than one (1) random test sample may fail the bend test.

8.3 Failure to meet requirements of Paragraphs 8.1 and 8.2 will place the Plant on De-Certified Plant status.

9.0 GAINING CERTIFICATION AFTER BEING ON NON-CERTIFIED OR DE-CERTIFIED PLANT STATUS

9.1 A Plant on the Non-Certified Plant or the De-Certified Plant status may gain Certified Plant status at the next annual renewal inspection provided the testing procedures required for Certified Plant status are met. A Non-Certified Plant or De-Certified Plant may request a retest for Certified Plant status prior to the annual renewal inspection provided proof is demonstrated to the Engineer that causes of the deficiencies have been remedied.

10.0 CONDITIONS OF CERTIFIED PLANT STATUS

10.1 Procedure - The same procedure which Sections 5.0 and 6.0 require to obtain Certified Plant status will be used to gain renewal of Certified Plant status. Certified Plant status for a new Plant determined under Sections 5.0 and 6.0 will be in effect for a 12-month period unless the Plant is decertified under conditions of Section 8.0. At that time, a second certification check to Sections 5.0 and 6.0 will be performed.

11.0 REPORTING

11.1 A copy of the mill certifications and the shipping orders or invoice showing fabric size and job identification shall be provided to the Resident Engineer and the District Materials Engineer. The Resident Engineer shall make positive identification between the fabric Certification Tag and the Certified Plant list. Materials from a Certified Plant will be accepted and entered into the MISTIC report system by the District.

Eric E. Harm, P.E.
Engineer of Materials
and Physical Research

This policy memorandum supersedes Policy Memorandum 95-8, effective October 16, 1995.

RTR/dg